

REMARKS/ARGUMENTS

Based on the above amendments and the following remarks, applicants respectfully submit that all the pending claims are in condition for allowance.

Status of the Claims

Claims 1-24 were pending. Claims 5, 15, 19 and 22-24 have been canceled. Claims 1, 7, 11, 13-14, 16, 18 and 20 have been amended. No new claims have been added. Claims 1-4, 6-14, 16-18 and 20-21 are therefore pending.

Claim 1 has been amended to incorporate the limitations of canceled claim 5. The scope is unchanged relative to claim 5.

Claim 7 has been amended to place this claim in independent form. The claim scope is unchanged.

Claim 11 has been amended to correct an inadvertent terminology error. This claim scope is unchanged relative to the originally intended and facially evident scope.

Claim 13 has been amended to correct a typographical error. This claim scope is unchanged relative to the originally intended and facially evident scope.

Claim 14 has been amended solely to clarify the claim language.

Claims 16 and 18 have been amended into independent form. The claim scopes have been broadened by the omission of an element from the canceled base claim.

Claim 20 has been amended to place this claim in independent form. The claim scope is unchanged.

Rejections Under 35 USC § 103

Claims 1-24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,386,478 ("Plunkett") in view of U.S. Patent No. 5,778,087 ("Dunlavy"). Applicants traverse the rejections insofar as they apply to the claims in their currently pending form because the examiner has not established a prima facie case of obviousness.

To make a rejection under § 103, the examiner must establish a prima facie case of obviousness. *See* MPEP 2142.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

Id (emphasis added). Applicants respectfully submit that the examiner has not established a prima facie case of obviousness because the cited art does not teach or suggest all the claim limitations.

As amended, independent claim 1 recites "wherein said control logic causes said display to display a visual image that indicates the relative position of a null line". The examiner admits that Plunket is silent regarding a display. (See the sentence bridging pages 2 and 3.) To anticipate this limitation, the examiner cites Dunlavy's indicator 46. However, Dunlavy's indicator 46 is described only as "a conventional sound pressure level, or decibel, meter, capable of measuring the combined sound level of the acoustic signals created by the loudspeakers". Col. 3, lines 60-64. Dunlavy teaches that the operation of indicator 46 as it moves, in conjunction with the position of indicator 46 itself, can be used to position loudspeakers relative to a principal listening position. Col. 3, line 64 through col. 4, line 30. Thus any "display" that might be associated with indicator 46 would

serve only to indicate decibels, and would not provide a visual image having any indication of position. For at least this reason, independent claim 1 and its dependent claims 2-4 and 6 are allowable over the cited art.

Independent claim 7 recites "an inverter coupled between said noise generator and at least one delay module". To anticipate this limitation, the examiner cites Dunlavy's out-of-phase wiring configuration in which two speaker wires are reversed. The examiner asserts that "it would have been obvious to modify Plunkett's system in view of Dunlavy by using an inverter for inverting the signal applied to one speaker relative to another speaker". Page 4. Even if true, this still falls short of anticipating the claimed configuration in which the inverter is located between the noise generator and at least one delay module. Furthermore, neither of the references teaches or suggests the use of an inverter, as would be required to establish prima facie obviousness. For at least these reasons, independent claim 7 and its dependent claim 8 are allowable over the cited art.

Dependent claim 8 recites in part "a low pass filter ... for low pass filtering the noise signal". To anticipate this limitation, the examiner cites Dunlavy, saying "Dunlavy teaches only a portion of the noise signal within the audible sound spectrum is needed for calibration". Page 4. Accepting this statement for the sake of argument, this teaching still falls far short of suggesting what portion of the spectrum should be used and how to obtain a signal having such a spectrum. The above quoted claim limitations are just simply absent from the cited art. For at least this reason, dependent claim 8 is allowable over the cited art.

Unamended independent claim 9 recites in part "a low pass filter ... for filtering the random noise signal" and "an inverter coupled to said low pass filter". The examiner relies on

Dunlavy to anticipate these limitations. As applicants have argued above, Dulavy fails to teach these limitations. For at least these reasons, independent claim 9 and its dependent claim 10-14 are allowable over the cited art.

Independent claim 16 recites in part "providing substantially random noise to a reference speaker and a first speaker [and] providing substantially random noise to said reference speaker and a second speaker." To anticipate this limitation, the examiner argues "Since the ultimate goal of calibrating the speakers is to determine the sweet spot, one skilled in the art would have expected that the same procedure could be applied to a second and then a third speakers without generating any unexpected result". The examiner cites no support for this assertion and applicants have been unable to find any such support in the cited references. Applicants hereby request the examiner cite some support for this reasoning or withdraw the rejection. Furthermore, this reasoning still fails to anticipate the claimed limitation in which a given speaker is employed as the reference speaker for balancing with respect to two other speakers. For at least these reasons, independent claim 16 and dependent claim 17 are allowable over the cited art.

Independent claim 18 recites in part "processing said audio signal to determine a minimum amplitude level". The examiner fails to address this limitation, and applicants can find no teaching or suggestion of this limitation in the cited art. For at least this reason, independent claim 18 is allowable over the cited art.

Independent claim 20 recites in part "a filtering means coupled to said noise signal generating means for low pass filtering the substantially random noise signal". As previously argued by the applicants, the cited art fails to teach low pass filtering a substantially random noise

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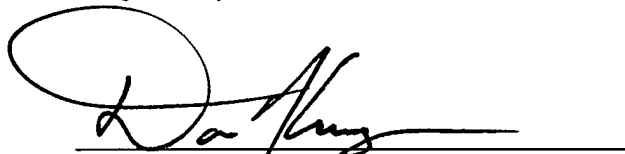
signal. For at least this reason, independent claim 20 and its dependent claim 21 are allowable over the cited art.

Conclusion

In the course of the foregoing discussions, applicant may have at times referred to claim limitations in shorthand fashion, or may have focused on a particular claim element. This discussion should not be interpreted to mean that the other limitations can be ignored or dismissed. The claims must be viewed as a whole, and each limitation of the claims must be considered when determining the patentability of the claims. Moreover, it should be understood that there may be other distinctions between the claims and the prior art which have yet to be raised, but which may be raised in the future.

Applicants submit that this response constitutes a complete response to all of the issues raised in the Office Action dated March 24, 2003. Applicants have responded to the various rejections under 35 U.S.C. § 103(a). In view of the foregoing amendments and remarks, applicant submits that all pending claims are now in condition for allowance, and an early notice to that effect is earnestly solicited. If any fees are inadvertently omitted or if any additional fees are required or have been overpaid, please appropriately charge or credit those fees to LSI Logic Corporation, Deposit Account Number 12-2252/5201-19401/DJK.

Respectfully submitted,



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